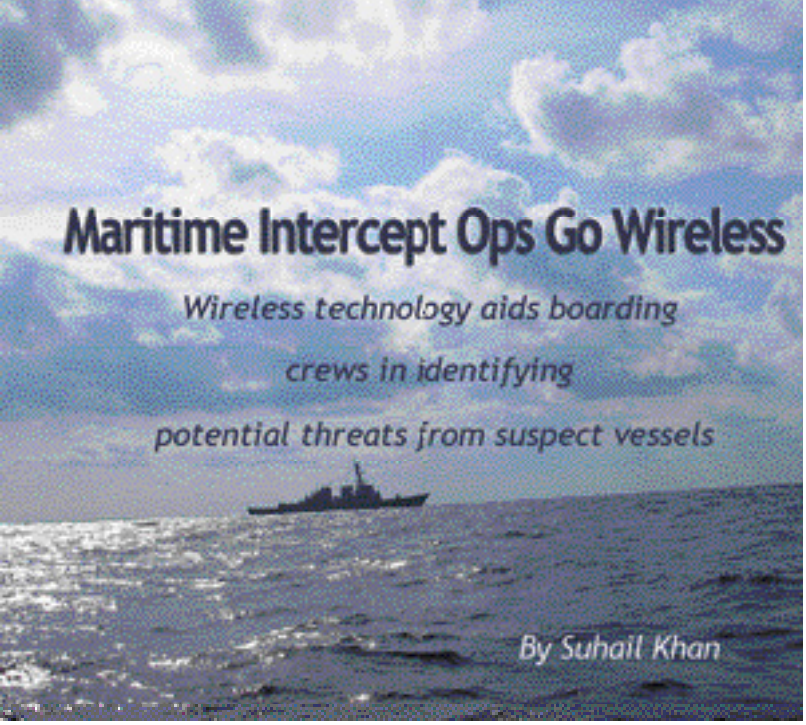

USS Carney (DDG 64)

On March 21, 2006, the Office of Naval Research approved a Rapid Technology Transition proposal from program office PMW 160 for an 18-month acceleration of a new capability for a wireless link between DDG-51 Arleigh Burke-class guided missile destroyers and target vessels in support of expanded maritime intercept operations (EMIO).

EMIO is a key maritime component needed to support the global war on terrorism by deterring, delaying and disrupting the movement of terrorists and terrorist-related materials and personnel at sea.

PMW 160, under Program Executive Office for Command, Control, Communications, Computers and Intelligence (C4I), developed a system that provides an 802.11g wireless link between the interdicted vessel and the host Navy ship up to two nautical miles away. The link transmits biometric data collected from the crew of the interdicted vessel. The data assist the ship's visit, board, search and seizure (VBSS) teams in identifying potential threats.

Because of the fleet's urgent need, Naval Network Warfare Command (NETWARCOM) funded an interim solution to provide wireless reachback functionality sooner. Recent attention gained by the project resulted in the Office of the Chief of Naval Operations taking keen interest in funding and immediate deployment of the interim solution for use in the war on terrorism.

From Dec. 4 through Dec. 8, 2006, Space and Naval Warfare Systems Center (SSC) Charleston personnel conducted security and operational tests at sea aboard the guided missile destroyer USS Carney (DDG 64). The five-day underway period for conducting mission preparedness exercises offered an opportunity for us to get aboard the Carney and demonstrate the tactical advantages of the system.

We departed Mayport, Fla., early morning Dec. 4 to conduct the tests. For the operational test, a rigid-hull inflatable boat (RHIB) posed as the interdicted vessel. As part of the tests, four distances ranging from 500 to 1,800 yards were tested. Biometric files were transferred from the RHIB to the host ship in less than three seconds with no errors.

During the test, USS Carney Commanding Officer Cmdr. Patrick Shea asked for a picture of the ship (shown at left) to be taken from the RHIB and sent back through the wireless link. Upon receiving the picture at the MIO platform through the wireless link, Shea sent the photo to his squadron, Destroyer Squadron 24, via e-mail as an example of the capability of the wireless link.

All tests were performed successfully by the SSC Charleston team with no detected vulnerabilities. Shea and the MIO boarding team were highly impressed by the tests and a positive naval message was sent by DESRON 24.

The system was tested again in Trident Warrior 2007, the premier FORCEnet Sea Trial series of experiments, in March. Look for more information about the results of the experiments regarding this new capability in the next edition of CHIPS.

Suhail Khan is a project engineer working in SSC Charleston's Communication Systems Department.

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Suhail Khan mans a laptop in the background as USS Carney Commanding Officer Cmdr. Patrick Shea is all smiles after receiving a photo via the wireless link. The wireless link between the interdicted vessel and the host Navy ship reaches up to two nautical miles.

A team aboard the RHIB transfers files to USS Carney during recent tests for a wireless link in support of maritime intercept operations.